

LOZOVY, A.V.; MUSELEVICH, D.L.; RAVIKOVICH, T.M.; SENYAVIN, S.A.; TITOVA, T.A.;
CHERKASOVA, V.F.; Primali uchastiye: DEMBOVSKAYA, Ye.A.;
ZAKHARENKO, V.A.; L'VOVA, L.N.; MARKINA, T.I.

Hydrogenation catalysts on an aluminosilicate base. Zhur.prikl.khim.
34 no.10:2295-2302 0 '61. (MIRA 14:11)
(Hydrogenation) (Catalysts)

S/846/62/017/000/001/002
EO71/E135

AUTHORS: Lozovoy, A.V., Muselevich, D.L., Ravikovich, T.M.,
Titova, T.A., and Cherkasova, V.F.

TITLE: A two-stage scheme for the production of chemical
products by hydrogenation of tar from the Cheremkov
coals

SOURCE: Akademiya nauk SSSR. Institut goryuchikh iskopayemykh.
Trudy. v.17, 1962. Khimicheskaya i termicheskaya
pererabotka topliva. 174-181.

TEXT: This is a continuation of the previously published work
in which the possibility of production of various compounds and
semiproducts from the tar produced by semicoking of the above coals
was demonstrated; namely, that by liquid phase (at 300-500 atm)
and high temperature vapour phase (at 75 atm) hydrogenation, 31-37%
of various chemicals, 37-51% of a high quality motor fuel and
18-25% of gases (C_nH_{2n+2} ; $C_1 - C_4$) can be obtained. In the
present work a gaseous phase hydrogenation directed towards the
production of chemical products instead of motor fuel was carried

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out in a 3 litre laboratory reactor. Liquid phase hydrogenation products of the tar boiling up to 300 °C, obtained under works' conditions, were used as a starting material. Phenols and a major part of nitrogenous bases were removed before the processing. The hydroaromatisation was carried out at 75 atm, hydrogen supply of 5.5 moles per mole of the raw material, and a temperature of 510 °C in the presence of a technical catalyst $\text{MoO}_3 + \text{Al}_2\text{O}_3$, at a volume velocity of 0.7-0.75 kg/l/hr. Operating period: 100 hours with one stop after 67 hours (without regeneration of the catalyst). According to composition and yield analyses the activity of the catalyst remained approximately the same throughout the operating period; 71-74% of liquid hydrogenated products, 3.5-4% of water and 23-25% of gaseous hydrocarbons ($\text{C}_n\text{H}_{2n+2}$, $\text{C}_1 - \text{C}_4$) were obtained.

A high degree of aromatisation (86.7% of aromatics, including 38.1% of monocyclic and 48.6% bicyclic and condensed and 13.3% of naphthenic and paraffinic hydrocarbons) was achieved. Over 82% of the liquid products boils below 250 °C; this fraction does not require a further hydrogenating treatment and represents a

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finished raw material for the separation of aromatic hydrocarbons;
the residue boiling above 250 °C must be returned to hydrogenation.
By a two stage hydrogenation treatment of the tar combined with a
preliminary separation of phenols (C₆ - C₈) and bases and with
other processes, 62-66% of valuable chemical compounds and
semiproducts (aromatic hydrocarbons C₆ - C₈, phenols C₆ - C₈,
naphthalene, monomethylnaphthalenes, solvents, etc), 33-37% of
gases C_nH_{2n+2} can be obtained with a hydrogen consumption of
5.7-6.0% on the weight of the tar.
There are 1 figure and 2 tables.



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S/846/62/017/000/002/002
E075/E135

AUTHORS: Lozovoy, A.V., Muselevich, D.L., Ravikovich, T.M.,
Senyavin, S.A., Titova, T.A., and Cherkasova, V.F.

TITLE: Silica-alumina based catalysts for high hydrogen
pressure hydrogenation

SOURCE: Akademiya nauk SSSR, Institut goryuchikh iskopayemykh.
Trudy. v.17. 1962. Khimicheskaya i termicheskaya
pererabotka topliva. 199-211. ✓

TEXT: Silica-alumina catalysts activated with HF and
described previously (A.V. Lozovoy, D.L. Muselevich, T.M. Raviko-
vich, S.A. Senyavin and V.F. Cherkasova, Zh P Kh, 34, 1200 (1961))
have insufficient stability at 300 atm and 500-510 °C during
hydrogenation of coal tar oils. The authors therefore investigated
the activity and stability of the catalysts at 600 atm and
470-505 °C during hydrogenation of coal tar oils from which the
most valuable phenols and N-compounds were previously extracted.
The new catalysts were based on HF treated silica-alumina with the
addition of a few percent of oxides and sulphides of Cr, Zn, Fe,
Ni, and traces of W or Mo. The activity of the catalysts was

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Silica-alumina based catalysts for high... S/846/62/017/000/002/002
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investigated in continuous vapour phase hydrogenation. Most of the new catalysts were found to be highly active and superior to such industrial catalysts as WS_2 - silica alumina (no.6434), $MoO_3-Al_2O_3$ (no.7360) and K-536 type catalyst. The most active was catalyst no.66 - askanit (Askan clay) activated with HF (73.35%) containing oxides and sulphides of Cr (2.9%), W (0.75%), Zn (5.9%). Hydrogenation of coal tar using this catalyst was carried out for 3 to 4 hours under 600 atm and at 501-505 °C. The liquid products contained predominantly aromatic hydrocarbons, and the gaseous products - ethane and butanes. The advantages of catalyst no.66 are: 1) its complexity of action permitting use of one catalyst in place of the three used previously (WS_2 , WS_2 + silica-alumina, $MoO_3 + Al_2O_3$) and one hydrogenation stage in place of three stages previously, i.e. preliminary hydrogenation, reforming and dehydrogenation under pressure; 2) possibility of direct processing of coal tar products; 3) high space velocity of the hydrogenation - 1.5 to 2.0 in place of 0.5-0.7 used previously); 4) small content of expensive W (0.75%) and exclusion of Mo. There are 1 figure and 5 tables.

Card 2/2

KRICHKO, A.A.; MEZHLUMOVA, A.I.; PAL'CHIKOV, G.F.; TITOVA, T.A.; Prinimali
uchastiye: CHERKASOVA, V.F.; RAVIKOVICH, T.M.

Hydrogenation of aromatized petroleum crude without catalysts
for obtaining naphthalene and other products. Nefteper. i nefte-
khim. no.9:30-33 '63. (MIRA 17:8)

1. Groznenskiy kreking-zavod, Groznenskoye upravleniye neftepere-
rabatyvayushchey i neftekhimicheskoy promyshlennosti i Institut
goryuchikh iskopayemykh.

KRICHKO, A.A.; LOZOVY, A.V.; MEZHLUMOVA, A.I.; PAL'CHIKOV, G.F.; RAVIKOVICH, T.M.; TITOVA, T.A.; CHERKASOVA, V.F.; Primali uchastiye: MUSELEVICH, D.L.; SOVETOVA, L.S.; TSITRON, I.L.

Obtaining naphthalene from straight-run fractions of the Anastasiyevska petroleum. Nefteper. i neftekhim. no.10:3-8 '63.

(MIRA 17:2)

1. Institut goryuchikh iskopayemykh AN SSSR, Groznenskiy kreking-zavod i Upravleniye neftepererabatyvayushchey i neftekhimicheskoy promyshlennosti.

KRICHKO, A.A.; LOZOVY, A.V.; TITOVA, T.T.; Prinimali uchastiye:
RAVIKOVICH, T.M.; CHERKASOVA, V.F.

Role of water vapor in the production of naphthalene from
petroleum raw stock. Nefteper. i neftekhim. no.11:18-21 '64
(MIRA 18:2)

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tekhn. red.

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(Plant physiology)

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KOL'S, Ol'ga Romanovna; KRIGER, Yuriy Arkad'yevich;
KUDRYASHOV, Yuriy Borisovich; LITVIN, Feliks Fedorovich;
KONAZYUK, Vasiliy Grigor'yevich; CHERKASOVA, V.I., red.

[Laboratory work in biophysics] Malyi praktikum po biofizike.

[By] E.V.burlakova i dr. Moskva, Vysshaya shkola, 1964.

407 p.

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TOLKACHEVSKAYA, Nadezhda Filippovna; KAPLANSKIY, S.Ya., prof.,
otv. red.; CHERKASOVA, V.I., red.; TSUKERNIK, I.A., red.;
TIKHOMIROVA, S.G., tekhn. red.; GUS'KOVA, O.M., tekhn.red.

[Development of the biochemistry of animals; a short
historical outline] Razvitie biokhimii zhivotnykh; kratkii
istoricheskii ocherk. Moskva, Izd-vo AN SSSR, 1963. 96 p.
(MIRA 17:1)

GORZHKOVSKAYA, Sofiya Iosifovna; CHERKASOVA, V.I., red.; MURASHOVA,
V.A., tekhn. red.

[Disinfection in veterinary practice] Dezinfektsiia v uslo-
viiakh veterinarnoi praktiki. Moskva, Vysshaia shkola,
1963. 359 p. (MIRA 17:3)

PASYNSKIY, Anatoliy Germanovich; CHERKASOVA, V.I., red.; GRIGORCHUK,
L.A., tekhn. red.

[Biophysical chemistry] Biofizicheskaya khimiya. Moskva,
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L.L., tekhn. red.

[Course in plant physiology] Kurs fiziologii rastenii. Izd.2.
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BOYEVA, Mariya Nenova; CHERKASOVA, V.I., red.

[Immunological study of precancerous changes in human breast tissue] Immunologicheskoe izuchenie predrakovo izmenennoi tkani molochnoi zhelezy cheloveka. Moskva, Meditsina, 1964. 96 p. (MIRA 17:11)

SKVIRSKAYA, Lidi' Berkovna; CHEPINOVA, Olga Petrovna, CHEPINSKOVA,
V.I., red.

[Laboratory work in nucleoproteins and nucleic acids]
Praktikum po nukleoproteidam i nukleinovym kislotam. Moskva, Vysshaia shkola, 1964. 213 p. (MIRA 18:2)

DMITRIYEV, Aleksandr Semenovich; CHERKASOVA, V.I., red.

[Physiology of higher nervous activity] Fiziologiya
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1964. 465 p. (NIRA 17:9)

KRETOVICH, Val'tsov Leonovich, prof.; CHERKASOVA, V.I., red.

[Principles of plant biochemistry] Osnovy biokhimi
rastenii. Izd.4., perer. i dop. Moskva, Vysshaia shkola,
1964. 585 p. (MIRA 17:12)

AFONCHIK, Sergey Ivanovich, prof.; CHERKASOVA, V.I., red.

[Animal biochemistry] Biokhimiia zhivotnykh. 7ed.2.,
perer. i dop. Moskva, Vysshaya shkola, 1964. 629 p.
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[Lectures on the physiology of the nervous system] Lektsii
po fiziologii nervnoi sistemy. Moskva, Vysshaia shkola,
1965. 311 p. (MIRA 18:5)

SVISTUNOV, G.A., inzh.; CHERKASOVA, V.P.

Cutting and drilling concrete and reinforced concrete. Stroi.
1 dor. mash. 10 no.8:25-28 Ag '65. (MIRA 18:9)

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Extraordinary weather phenomena in the U.S.S.R. in 1958 and 1959.
Trudy TSIP no.112 '61. (MIRA 14:2)

(Meteorology)

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"Experiment to Study Dust and Smoke Contents of Atmospheric Air in the Area of the First Moscow Order of Lenin Medical Institute Clinic to Work Out Sanitary Measures."
Thesis for degree of Cand. Medical Sci. Sub 20 Jun 49, First Moscow Order of Lenin Medical Inst.

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

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of the lichen *Evernia prunastri* (L.) Ach. Bot.zhur. 50
no.7:979-981 J1 '65. (MIRA 18:11)

1. Leningradskiy tekhnologicheskij institut kholodil'noy
promyshlennosti.

CA CHERKASOV, Ye. I.²

Determination of threshold of sulfur dioxide concentration by odor. I. N. Popov, E. F. Cherkasov, and O. L. Trakhtman (1st Moscow Med. Inst.). *Gigiena i Sanit.* 1932, No. 5, 16-20.—Concns. below 0.004 mg./l. cannot be detected by odor. At 0.006-0.008 level it was detectable by most people. G. M. Kosolapoff

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tekhn.red.

[J.B.Lamarck and the theory of the evolution of the organic
world] Zh.B.Lamark i uchenie ob evoliutsii organicheskogo
mira. Moskva, Gos.izd-vo "Vysshaia shkola," 1962. 265 p.
(MIRA 15:5)

(Lamarck, Jean Baptiste de, 1774-1829)
(Evolution)

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SUMARUKOV, G.V.; TOLKACHEVA, Ye.N.; RYABCHENKO, M.V.; TARUSOV, B.N., red.;
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[Laboratory work in general biophysics in eight volumes]
Praktikum po obshchei biofizike v vos'mi vypuskakh. Pod
obshchei red. B.N.Tarusova. Moskva, Vysshaya shkola.
No.7. [Radiobiology; radiation injury of biological objects
under the effect of a single whole body X-ray or gamma ir-
radiation] Radiobiologiya; luchevoe porazhenie biologicheskikh
ob"ektov pri deistvii obshchego odnokratnogo rentgenovskogo
ili gamma-oblucheniya. 1962. 273 p. (MIRA 16:4)
(RADIOBIOLOGY--LABORATORY MANUALS)

VLASYUK, P.A., akademik, otv. red.; GARKUSHA, M.A. [Harkusha, M.A.],
red.; ZORIN, I.G. [Zorin, I.H.], red.; KOZIY, G.V. [Kozii, H.V.], prof.,
red.; KUKSIN, M.V., kand. sel'khoz.nauk, red.; CHERKASOVA, V.O.,
kand. sel'khoz.nauk, red.; YUKHIMCHUK, F.P. [Iukhymchuk, F.F.], kand.,
sel'khoz.nauk, red.; LISOVICHENKO, Ya.V. [Lisovychenko, I.A.V.], red.;
VIDONYAK, A.P., tekhn. red.

[Increasing the productivity of natural forage lands in the
Ukrainian S.S.R.; transactions of the session of the Department
of Agriculture of the Ukrainian Scientific Research Institute of
Agriculture] Pidvyshchennia produktyvnosti pryrodnykh kormovykh
uhid' Ukrain's'koi RSR; pratsi naukovoï sesii Viddilennia zemlerob-
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1. Prezident Ukrain's'koy akademii sel'skokhozyaystvennykh nauk (for
Vlasyuk). 2. Sekretar Kiyevskogo oblastnogo komiteta Kommunistiche-
skoy Partii Ukrainy (for Garkusha). 3. Chlen-korrespondent Ukrain-
skoy akademii sel'skokhozyaystvennykh nauk, zamestitel' ministra
sel'skogo khozyaystva USSR (for Zorin). 4. Nauchno-issledovatel'-
skiy institut zemledeliya i zhivotnovodstva zapadnykh rayonov
USSR (for Kozii). 5. Ukrain's'kiy nauchno-issledovatel'skiy insti-
tut zemledeliya (for Kuksin). 6. Poltavskaya gosudarstvennaya
sel'skokhozyaystvennaya issledovatel'skaya stantsiya (for
Cherkasova).

(Ukraine—Pastures and meadows)

CHERKASOVA, Ye.D.

Malignant tumors in children. Trudy Inst. klin. i eksp.
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Method and equipment for the transmission of data through a simplex telegraphy channel. Elektrosviaz' 19 no.9:50-58 S '65. (MIRA 18:9)

CHERKASOVA, Ye. M.

1. MELNIKOV, N.N.; SKLYARENKO, S.I., CHERKASOVA, Ye. M.

2. USSR (600)

"The Question of the Electrochemical Rhodanizing of Organic Compounds",
Zhur. Obshch. Khim. 9, No. 19, 1939. Institute of Chemical Pharmaceutic
(Tonkoy) Technology, Moscow. Received 11 May 1939.

9. ~~SECRET~~ Report U-1626, 11 Jan 1952.

1ST AND 2ND COPIES										100 AND 2TH COPIES									
PROCESSES AND PROPERTIES INDEX																			
CA CHERKASOVA, Ye. M. 10 The electrochemical introduction of the thiocyanate group into organic compounds. II. The introduction of the thiocyanate group into aromatic amines. Ye. M. Cherkasova, S. I. Sklyarenko and N. N. Mel'nikov. <i>J. Gen. Chem.</i> (U. S. S. R.) 10, 1373-6 (1940); cf. C. A. 34, 3999. The previously described method was used for the prepn. of the thiocyanate derivs. of methyl-, ethyl-, propyl-, and butylaniline, ethyl-m-toluidine, ethylbenzylaniline, dibutylaniline, anthranilic acid and N-methylanthranilic acid. The substitution occurred in the p-position, exceptions being the 2 acids where the substitution occurred in the m-position; the deriv. of PhNBu₃ was not sepd. because of decomposition. The yield of the thiocyanate derivs. of secondary amines was about 41-60%, and that of tertiary amines 84%. The yields of the derivs. of the 2 acids were 54 and 63%. A. A. Podgorny Lab. Org. Chem., Moscow Inst. Fine Chemical Technology																			
ASD-51A METALLURGICAL LITERATURE CLASSIFICATION																			
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CHERKASOVA, YE. M.

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Electrochemical thiocyanation of organic compounds.
 III. *p*-Substituted aromatic amines. N. N. Mel'nikov
 and E. M. Cherkasova. *L. Gen. Chem.* (U. S. S. R.) 14,
 113-115 (1944) (English summary); cf. *C. A.* 35, 3015.
 The expts. were conducted in a Cu vessel acting as the
 cathode, with a rotating graphite anode; the temp. used
 was -5°; the c. d. on the anode ranged from 0.03-0.05
 amp./sq. cm.; no diaphragm was used. *p*-Toluidine
 (1.5 g.), 3.3 g. NH₄CNS, 2 cc. concd. HCl and 35 cc. aq.
 EtOH treated with 2 amp.-hrs. of current, yielded, after
 diln. and refluxing for 1.5 hrs., 2-amino-6-methylbenzo-
 thiazole, m. 135-6°. Similarly, 1.5 g. aniline, 2.7 g.
 NH₄CNS, 4 cc. concd. HCl and 12 cc. EtOH-10 cc. H₂O
 gave 57% 2-amino-6-methoxybenzothiazole, m. 163°.
 By using phenetidine, 60% 2-amino-6-ethoxybenzothia-
 zole, m. 155-6°, was obtained. When 2.5 amp.-hrs. of
 current was passed through 1.98 g. *p*-H₂NC₆H₄CO₂Et,
 2.74 g. NH₄CNS, 5 cc. concd. HCl and 20 cc. EtOH-6 cc.
 H₂O there was obtained Et 4-amino-3-thiocyanobenzoate,
 which, heated to 150°, gave 90% 2-amino-6-carbethoxy-
 benzothiazole, m. 240-1°. Similarly, the corresponding
 Me ester, m. 200°, was prepd. from *p*-H₂NC₆H₄CO₂Me.
 G. M. Kosolapoff

Lab. Organic Chem., Moscow Inst. of Fine Chem. Technology.

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM ROMANY

RELIST ONE ONLY ISI

CHERKASOVA, Ye. M.		10	
Electrochemical synthesis of organic compounds. V. Preparation of selenocyanates. N. N. Melnikov and Ye. M. Cherkasova (Inst. Fine Chem. Tech., Moscow). <i>J. Gen. Chem. (U.S.S.R.)</i> 10, 1025-8 (1946) (in Russian); cf. C.A. 39, 9119. Electrolysis of salts of HSeCN in the presence of org. substances in the anode compartment leads to formation of org. selenocyanates. A Cu vessel served as a cathode and container simultaneously; a rotating graphite anode was used. The app. was cooled with ice-water. PhNMe_2 (1.2 g.), 2.0 g. KSeCN, 30 cc. EtOH, and 10 cc. H_2O were electrolyzed at 20 anode d. 0.002-0.008 amp./sq. cm. for a total of 1.2 amp. hrs.; after diln. with water and extr. with Et_2O there was obtained 15% 1-dimethylamino-4-(cyanoseleno)benzene, m. 105-0° (from petr. ether). If the reaction is run as above, but with addn. of 1.13 g. concd. HCl and the use of 20 cc. EtOH, the yield is 20%. Much Se is formed during the reaction, coating the electrodes, etc. Similar reaction with EtHNPh at 0.02-0.008 amp./sq. cm. gave 20% of the di-Et deriv., m. 50-2° (from petr. ether). PhNtMe (3.5 g.), 14 g. KSeCN, 30 cc. EtOH, and 40 cc. water gave, at 0.01-0.02 amp./sq. cm., about 10% 1-methylamino-4-(cyanoseleno)benzene, m. 80° (from petr. ether); EtHNPh gave, using a Pt electrode for cathode, a similar yield of the Et deriv., m. 42°.			
Inst. of Fine Chemical Technology im. Lomonosova, Moscow.			
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION			

Feb 49

USSR/Chemistry - Paraffins, Nitro
Chemistry - Aldehydes

"Research in the field of Aliphatic Nitrocompounds:
VI, Obtaining Halogen Nitroparaffins from Oximes of
Aldehydes and Ketones," Ye. M. Cherkasova, N. N.
Mel'nikov, Lab Org Chem, Moscow Inst of Fine Chem
Tech, 3 pp

"Zhur Shench Krim" Vol XIX, No 2
Demonstrated that halogen nitroparaffins may be
obtained by halogenation of oximes of aldehydes and
ketones in an alkaline medium without preliminary
separation of halogen nitroso compounds. Methods
46/4916

USSR/Chemistry - Paraffins, Nitro (Contd) Feb 49
may be used for synthesis of halogen nitroparaffins
of a required structure. Submitted 22 Jun 47.

CHERKASOVA, YE. M.

46/45

CHERKASOVA - E. M.

/ Synthetic pain-relieving substances. I. Esters of 1-alkyl-1-phenyl-3-dialkylamino-1-propanols. I. N. Nazarov and E. M. Cherkasova. *J. Gen. Chem. U.S.S.R.* 25, 1485-06(1955)(Engl. translation).—See *C.A.* 50, 4824a. R. M. R.

①

CHERKASOVA, E.M.

Synthesis of pain-relieving substances. 1. Esters of 1-allyl-1-phenyl-3-dimethylamino-1-propanols. I. N. Nazarov and E. M. Cherkasova (M. V. Lomonosov Inst. Fine Chem. Technol., Moscow). *Zhur. Obshchei Khim.* 25, 1336-50 (1955). 1-Ethyl-1-phenyl-3-dimethylamino-1-propyl phenoxycetate was found to be a strong anesthetic with relatively low toxicity; propionates and other esters of this type based on the open structure of Promedol were completely ineffective analgesics. Hydrogenation of Et.NCH₂CH₂Bz.HCl over Pd-CaCO₃ gave 46.0% 1-phenyl-3-dimethylaminopropanol, b_p 113-13.5° (the reaction is more rapid in aq. soln. than in EtOH; however in aq. soln. the principal reaction is cleavage to EtNH₂ and EtBz). EtMgBr and Et.NCH₂CH₂Bz.HCl gave 47.3% 1-ethyl-1-phenyl-3-dimethylaminopropanol, isolated as HCl salt, m. 162-3°. Heating 4-methoxy-2-butanone with 33% aq. Me₂NH 5 hrs. at 80° gave 80% 1-dimethylamino-2-butanone, b_p 50-2°, which with PhLi (from PhBr and Li) in Et₂O gave 1-methyl-1-phenyl-3-dimethylaminopropanol, b_p 102-3°; HCl salt, m. 160-1°. EtMgBr and Me.NCH₂CH₂Bz.HCl gave 85% 1-phenyl-1-ethyl-3-dimethylaminopropanol, b_p 90-2°, m. 42-3°; the use of PrMgBr gave 73% 1-propyl-1-phenyl-3-dimethylaminopropanol, b_p 102-4°, m. 49-50°; HCl salt, m. 151-2°. Iso-PrMgBr gave 55.5% 1-isopropyl-1-phenyl-3-dimethylaminopropanol, b_p 96-7°, n_D²⁰ 1.5222, d₄²⁰ 0.9893; HCl salt, m. 152-3° (RMgI gave but 27% yield). BuMgBr gave 80% 1-butyl-1-phenyl-3-dimethylaminopropanol, m. 43-4° (HCl salt, m. 148-50°); PhCH₂MgCl gave 70% 1-phenyl-1-benzyl-3-dimethylaminopropanol, m. 70-2° (HCl salt, m. 150-7°). PhLi in 2-methyl-6-dimethylamino-4-hexanone gave a good yield of 1-isobutyl-1-phenyl-3-dimethylaminopropanol, m. 64-5°, b_p 115-10°; HCl salt, m. 142-2.5°; methiodide, m.

217-17.5°; available, m. 155-6°. PhOCH₂CO₂H with SOCl₂ gave 83% PhOCH₂COCl, b_p 109-10°. This (9.27 g.) was added slowly to 4.5 g. 1-phenyl-3-dimethylaminopropanol in MePh and the soln. was treated 10-15 min. with dry HCl, then heated on a steam bath 1.5 hrs.; acidification with HCl, extn. with Et₂O, and treatment of the acid ext. with base gave 98% 1-phenyl-3-dimethylaminopropyl phenoxycetate, b_p 171-2° (oxalate, m. 103-5°). To 6 g. 1-methyl-1-phenyl-3-dimethylaminopropanol, 0.42 g. Mg, and 30 ml. dry CCl₄ was added 7 g. AcCl; after final heating to 85-90° the mixt. yielded 6.4 g. 1-methyl-1-phenyl-3-dimethylaminopropyl acetate, b_p 94-0° (reaction of the alc. with acetyl chloride directly gave the corresponding HCl salt, m. 175-5-6°). Similarly were prepd. the following esters: 1-methyl-1-phenyl-3-dimethylaminopropyl propionate, b_p 97-9° (HCl salt, m. 151.5-5°); 1-methyl-1-phenyl-3-dimethylaminopropyl benzoate, b_p 166-8° (HCl salt, m. 180-80.5°); 1-ethyl-1-phenyl-3-dimethylaminopropyl acetate, b_p 115-17° (HCl salt, m. 172-3°); 1-ethyl-1-phenyl-3-dimethylaminopropyl propionate, b_p 120-2° (HCl salt, m. 153-3.5°); 1-ethyl-1-phenyl-3-dimethylaminopropyl benzoate, b_p 130-42° (HCl salt, m. 131-1.5°); 1-ethyl-1-phenyl-3-dimethylaminopropyl phenoxycetate, isolated as HCl salt, m. 132-3°, obtained concurrently with PhCEtCH₂CH₂NAc, b_p 80-8° (HCl salt, m. 183-3.5°); 1-ethyl-1-phenyl-3-dimethylaminopropyl cinnamate, isolated as HCl salt, m. 163-4°; corresponding hydro-1-phenyl-3-dimethylaminopropyl acetate, b_p 114-15°, n_D²⁰ 1.4988, d₄²⁰ 0.9883 (HCl salt, m. 161-5.5°); 1-propyl-1-phenyl-3-dimethylaminopropyl propionate, b_p 120-1°, n_D²⁰ 1.4952, d₄²⁰ 0.9801 (HCl salt, m. 152-3°); 1-propyl-1-phenyl-3-dimethylaminopropyl benzoate, b_p 158-00° (HCl salt, m.

(OVER)

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~~112-14°; picrate, m. 157-8°; 1-isopropyl-1-phenyl-3-di-~~
methylaminopropyl acetate, b.p. 101-2°, n_D²⁰ 1.5058, d₄²⁰
0.9997 (HCl salt, m. 182-2.5°); 1-isopropyl-1-phenyl-3-di-
methylaminopropyl propionate, b.p. 113-15° (HCl salt, m. 170-
1°). 1-Butyl-1-phenyl-3-dimethylaminopropyl acetate (from
the alc. and RCOCl in cold benzene), isolated as HCl salt, m.
162-3°, is also prepd. from R²NH, Ac₂O and a small amount
of CCl₃CO₂H in dry benzene after several days at room temp.
The direct reaction of the amino alc. with EtCOCl in dry
Me₂CO gave 60% 1-butyl-1-phenyl-3-dimethylaminopropyl
propionate, isolated as HCl salt, m. 128-9°. The amino alc.
treated with Na in dioxane, followed by BzCl, gave 56%
1-butyl-1-phenyl-3-dimethylaminopropyl benzoate, b.p. 142-
50°; HCl salt, m. 156-8°. Reaction of the amino alc. with
AcCl in C₆H₆ in the presence of Mg gave 68% 1-isobutyl-1-
phenyl-3-dimethylaminopropyl acetate, b.p. 122-3° (HCl salt,
m. 172-3°); if the reaction is run at 80-90° the alc. is
dehydrated to Me₂NCH₂CH:CHCH₂CHMe, b.p. 91-2.5°,
whose HCl salt m. 181.5-2°. Similarly were prepd.:
1-isobutyl-1-phenyl-3-dimethylaminopropyl propionate, b.p.
116-18° (oxalate, m. 165.5-66°; methiodide, m. 180-1°);
1-isobutyl-1-phenyl-3-dimethylaminopropyl benzoate, b.p. 154-
7° (oxalate, m. 170-1°). Direct reaction of the amino alc.
with RCOCl in Et₂O gave 70% 1-benzyl-1-phenyl-3-dimethyl-
aminopropyl phenoxycetate, whose HCl salt, m. 179-80°;
1-benzyl-1-phenyl-3-dimethylaminopropyl cinnamate, m. 180-
1°; the corresponding hydrocinnamate, m. 141-2°.

G. M. Kosolapoff

Cherkasova, E. M.

✓ Synthetic analgesic substances. II. Esters of 1-alkyl-1-phenyl-3-piperidinopropan-1-ols. I. N. Nazarov and E. M. Cherkasova. J. Gen. Chem. U.S.S.R. 25, 1879-85 (1955) (Engl. translation).—See C.A. 50, 8634c. B. M. R.

Chem

CHERKASOVA, YE, M.

E-2

USSR/Organic Chemistry. Synthetic Organic Chemistry.

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

Author : Nazarov I. I., Cherkasova Ye. M.

Inst :
Title :

Synthetic Anaesthetics. II. Complex Ethers 1-alkyl-1-phenyl-3-(N-pyperidyl)-propane-1-oles. III. Complex ethers 1-phenyl-1-alkyl-2-methyl-3-dialkylaminopropane-1-oles.

Orig Pub: Zh. Obshch. Khimiyi, 1955, 25, No 11, 1935-1942; 2120-2127.

Abstract: II. For the investigation of new anaesthetics from ,N-pyperidylpropionophenone (I) by the action of Mg-organic compounds were synthesized compounds of the type $C_5H_{10}N-CH_2CH_2C(C_6H_5)(R)OH$ (II). At the application of I in the form of the hydrochloride the yield reaches 78-96%. By hydration of I is obtained 1-phenyl-3-(N-pyperidyl)-propanole-1 (III). By the action of chloranhydrides or

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USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

HC, 169-171° (from acetone-ether); analogically is obtained (5 hours heating) II ($R=R'=C_2H_5$), yield 64%, b.p. 115-115°/1.5 mm; HC m.p. 200-202° (from acetone-chloroform). A mixture of 2.06 g. I ($R=CH_3$), 2.8 cc C_6H_5COCl , 0.3 Mg in 15 cc C_6H_6 is left standing 12 hours, heated on a water bath 6 hours and then 2 hours on adding a portion of ether, in the precipitate is HC-II ($R=CH_3$, $R'=C_6H_5$), yield 73%, m.p. 181-183° (from acetone-alc.). Analogically from 2.2 g. I ($R=C_2H_5$) is obtained a base II ($R=C_2H_5$, $R'=C_6H_5$), yield 1.1 g., b.p. 160-170°/1 mm, m.p. HC 176-178° (from acetone); from 2.2 g. I ($R=C_2H_5$), 2.2 g. $C_6H_5OCH_2COCl$, 0.1 g. Mg, and 16 cc abs. ether after the separation of the precipitate, dissolving it in a mixture of abs. alcohol and acetone and partial evaporation of the filtrate, are obtained 1 g. HC II ($R=C_2H_5$, $R'=CH_2OC_6H_5$), m.p. 147-148° (from acetone-ethylacetate); from 2.35 g. I ($R=n-$

Card : 10/11

USSR/Organic Chemistry. Synthetic Organic Chemistry.

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19191

C_3H_7) (5 hours heating in C_2H_5) -0.7 g. II ($R=n-C_3H_7$, $R' = C_2H_5$); HC, m. p. 132-134° (from acetone-ether); and from 2.5 g. I ($R=n-C_4H_9$)--II ($R=n-C_4H_9$, $R' = C_6H_5$), b.p. 160-167°/1 mm; HC, m.p. 103-105° (from acetone).

Card : 11/11

NAZAROV, I.I.; CHERKASOVA, Ye.M.

~~Synthetic anesthetics. Part 3. Esters of 1-phenyl-1-alkyl-2-
-methyl-3-dialkylaminopropan-1-ols. Zhur.ob.khim. 25 no.11:
2120-2127 0 '55.~~ (MLRA 9:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(EsterS) (Anesthetics)

CHERKASOVA E. M.

Chem Heterocyclic compounds. XXXIII. Synthesis of 1-alkyl-2,5-dimethyl-4-piperidones. I. N. Nazarov, E. M. Cherkasova, N. S. Prostukov, and N. I. Shvetsov. *J. Gen. Chem. U.S.S.R.* 25, 2209-17(1955)(Engl. translation).—See *C.A.* 50, 9111t. R. M. R.

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С. И. КИРДЮКОВА, Е.

✓ Heterocyclic compounds. XXXIII. Synthesis of 1-alkyl-2 : 5-
dimethyl-4-piperidone. I. Nazarov, E. Cherkasova, N. Prosmakov
and N. Shvetzov (*Zh. obshch. Khim.*, 1968, **36**, 2245-2255).
Synthesis was made of 13 new 1-alkyl-2 : 5-dimethyl-4-piperidones
by cyclization of propenyl isopropenyl ketone with primary amines
and alkylation of the 2 : 5-dimethyl-4-piperidone with alkyl
halides. Reactions occur with the enlargement of molecules. By
the action of carbonyl compounds and formic acid on 2 : 5-di-
methyl-4-piperidone, 2 : 5-dimethylpiperidine is formed, sub-
stituted in the 1 position, with a reduction of the keto group in
position 4.

A. I. B.

PM

C. CHERKASOVA, E.M.

✓ Heterocyclic compounds. XXXIV. Synthesis of 4-piperidone and 4-piperidol and their esters. I. N. Nazarov and E. M. Cherkasova (*Zh. obshch. Khim.*, 1955, 25, 2512—2519).—Derivatives of 2 : 5-dimethyl-4-piperidone and -4-piperidol were obtained, with keto-alkyl radicals on the nitrogen. The synthesis was effected by reacting $\alpha\beta$ -unsaturated ketones with β -methoxy-ketones and halogen-substituted ketones. The esters were obtained from the following: 1-acetonyl-2 : 5-dimethyl-4-hydroxypiperidine; 1-phenacyl-2 : 5-dimethyl-4-hydroxypiperidine. These substituted derivatives had no anaesthetic power. *Med*

A. L. B.

2

NAZAROV, I.N. [deceased]; CHERKASOVA, Ye.M.; KOSHELEV, F.F.; BABITSKIY, B.L.; VINITSKIY, L.Ye.

Study of action of arylalkylaminopropanols and aminopropiophenones as accelerators in rubber vulcanization. Khim.nauk i prom. 3 no.5: 678-679 '58. (MIRA 11:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova i Nauchno-issledovatel'skiy institut khimicheskoy promyshlennosti.

(Amino compounds)

(Vulcanization)

CHERKASOVA, YE. M.

79-1-26/63

AUTHORS: Nazarov, I. N. (Deceased), Cherkasova, Ye. M.

TITLE: Synthetic Anesthetizing Compounds (Sinteticheskiye cbezboiivayushchiye veshchestva) XXII. Phenoxycetates of 1-Phenyl-3-Dimethylaminopropane-1-Oles (XXII. Fenoksiatsetaty 1-fenil-3-dimetilaminopropan-1-olov)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 1, pp.122-126(USSR)

ABSTRACT: In earlier publications a number of compound esters of 1-phenyl-3-dialkylaminopropane-1-oles was described, some of which had a high anesthetizing activity; especially the phenoxycetate of 1-phenyl-1-ethyl-3-dimethylaminopropane-1-ole. In connection with that it was of interest to synthesise the phenoxycetates of 1-phenyl-3-dialkylaminopropane-1-oles and to determine the dependence of their physiological activity on structure. For this purpose some substituted phenoxycetates of 1-phenyl-3-dimethylaminopropane-1-oles were produced which have different substituents in the benzene nucleus of the phenoxycetate group. For the purpose of investigating the anesthetizing activity the authors also synthesized some

Card 1/3

79-1-26/63

Synthetic Anesthetizing Compounds. XXII. Phenoxyacetates of 1-Phenyl-3-Dimethylaminopropane-10les

esters from suberic acid and amino alcohols (e.g. formula (I), where $R = H$). These initial products were, as described earlier, synthesized according to Mannich from acetophenone and dimethylamine with a subsequent reduction of β -dimethylaminopropiophenone produced on that occasion, or according to Grignard (see formulae). The pharmacological investigation of the obtained esters (II) as chlorohydrates was performed in the laboratory of Mashkovskiy, M. D., where the suberic ester of 1-phenyl-3-dimethylaminopropanol-1, the p-nitrobenzoate and the m-cresoxyacetate of 1-ethyl-1-phenyl-3-dimethylaminopropanol-1 showed an external pharmacological activity. The p-cresoxyacetate and the p-methoxyphenoxyacetate of the tertiary amino alcohol (I, $R = C_2H_5$) according to their activity approach dicain. It must, however, be pointed out that their activity abruptly decreases after sterilization. There are 8 references, 3 of which are Slavic.

ASSOCIATION: Institute for Fine Chemical Technology imeni M. V. Lomonosov
(Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova)

Card 2/3

Synthetic Anesthetizing Compounds. XXII. Phenoxyacetates of 1-Phenyl-3-^{79-1-26/63}
-Dimethylaminopropane-1-Oles

SUBMITTED: December 14, 1956

AVAILABLE: Library of Congress

Card 3/3

1. Chemistry 2. Anesthetics-Synthetics 3. Phenoxyacetates

CHERKASOVA, YE. M.

AUTHORS:

TITLE:

PERIODICAL:

ABSTRACT:

Nazarov, I. N. (Deceased), Cherkasova, Ye. M.,
Synthetic Anesthetizing Compounds (Sinteticheskiye obzoboli-
vayushchiye veshchestva) XXIII. Phenoxyacetates of 1-Phenyl-
-2-Methyl-3-Dialkylaminopropanol-1 (XXIII. Fenoksiatsetaty
1-fenil-2-metil-3-dialkilaminopropan-1-olov)
Zhurnal Obshchey Khimii, 1958, Vol.28, Nr 1, pp.126-133(USSR)

In connection with earlier papers in which highly active
anesthetics had been found under the phenoxyacetates of 1-
-phenyl-3-dialkylaminopropanols-1 the authors synthesized a
number of phenoxyacetates of 1-phenyl-2-methyl-3-dialkylami-
nopropanols-1, represented by formulae (I) and (II), in order
to examine the action exerted by the methyl group in the pro-
panol chain upon the physiological activity. The favorable
influence of such a ramification in the alkanolamine chain
upon the anesthetizing action of their compound ethers was
already earlier demonstrated. The initial products, i.e.
1-phenyl-2-methyl-3-dialkylaminopropanol-1 was, as earlier,
synthesized from propiophenone according to Mannich. The
aminoketones (III) forming in this connection were by hydro-

CHERKASOVA, YE. M.

AUTHORS: Nazarov, I. N., (Deceased), Cherkasova, Ye. M., 79-2-38/64
 Chan Chon Khvan,
 TITLE: Synthetic Analgesics (Sinteticheskiye obezbolivayushchiye veshchestva). XXIV. The Esters of the 1-Phenyl-2,2-Dimethyl-3-Dialkylaminopropane-1-ol (XXIV. Slozhnyye efiry 1-fenil-2,2-dimetil-3-dialkilaminopropan-1-olov).
 PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 452-460 (USSR)
 ABSTRACT: Aminoketones are obtained from isobutyrophenon according to the reaction of Mannikh which by hydration are transformed into the corresponding secondary aminoalcohols in order to then be transformed into tertiary ones with the Grignard reagent. Dimethylamine and piperidine served as sessecondary amines. The obtained aminoalcohols were transformed into the corresponding esters mentioned in the title by the action of acid halogen-anhydrides. The latter were subjected to pharmacological investigations in order to classify their anaesthetic effect. Chlorine hydrates were used because of their water solubility. The results are given in comparison with dicaine in the talbe from which it appears that all compounds have a high anaesthetic effect. Phenoxycetate is most effective the activity of which is similar to that of dicaine, it, however, has a considerably lower toxicity. This preparation can be sterilized in a solution of 0,5%

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Synthetic Analgesics. XXIV. The Esters of the 1-Phenyl-2,2-Dimethyl-3-Dialkylaminopropane-1-ol.

79-2-38/64

and does not cause modifications subcutaneously in a solution of 1-2%. Precise data on the synthesized esters of the 1-phenyl-2,2-dimethyl-3-dialkylaminopropane-1-ol with branched propanol chain are given as well as of the intermediate products obtained (aminoketones and aminoalcohols with dimethylamine- and piperidine residue) and of preparation methods. There are 1 table, and 7 references, 2 of which are Slavic.

ASSOCIATION: Institute for Fine Chemical Technology imeni M. V. Lomonosov, Moscow (Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova)

SUBMITTED: December 14, 1956

AVAILABLE: Library of Congress

Card 2/2

SOV/153-2-3-11/29

5(3)

AUTHORS:

Nazarov, I. N. (Deceased). Cherkasova, Ye. M.

TITLE:

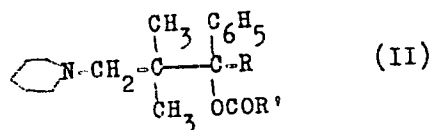
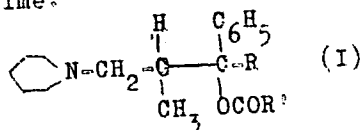
Synthetic Anesthetizing Substances. XVII. β -Phenoxy Propionates and Benzoates of 1-Phenyl-2-methyl- and 2,2-Dimethyl-3-(N-piperidyl)-propan-1-ol

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 3, pp 369-373 (USSR)

ABSTRACT:

In earlier papers the author reported on the synthesis of phenoxy acetates of some substituted β -amino propanols (Refs 1, 2). Among the compounds of this type several produce strong anesthetic effects. For the purpose of explaining the influence of the acid residue on the physiological activity some β -phenoxy propionates and benzoates of 1-phenyl-2-methyl-3-(N-piperidyl)- and 1-phenyl-2,2-dimethyl-3-(N-piperidyl)-propan-1-ol with the following structural formula were synthesized for the first time:



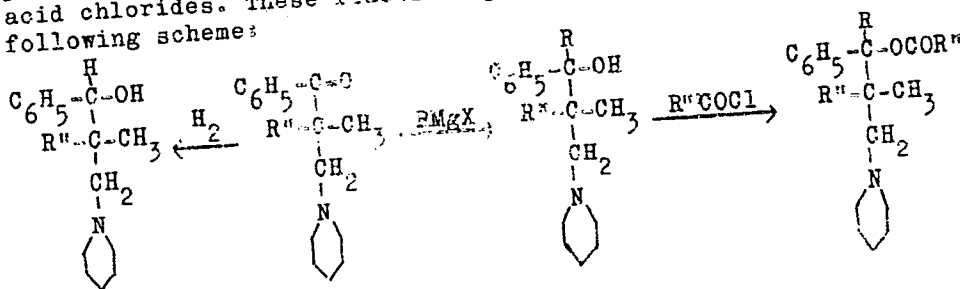
Card 1/4

Synthetic Anesthetizing Substances

SOV/153-2-3-11/29

β -Phenoxy Propionates and Benzoates of 2-Phenyl-2-methyl- and 2,2-Dimethyl-3-(N-piperidyl)-propan-1-ol

The substituted propanols which were used as initial products were produced from the corresponding amino ketones. This synthesis proceeds either over tertiary amino propanols (in the reaction with Grignard reagents) or over secondary amino propanols (in catalytic hydrogenation). The thus obtained amino alcohols were transformed into the benzoates and the phenoxy propionates, respectively, by the action of the corresponding acid chlorides. These reactions proceed according to the following scheme:



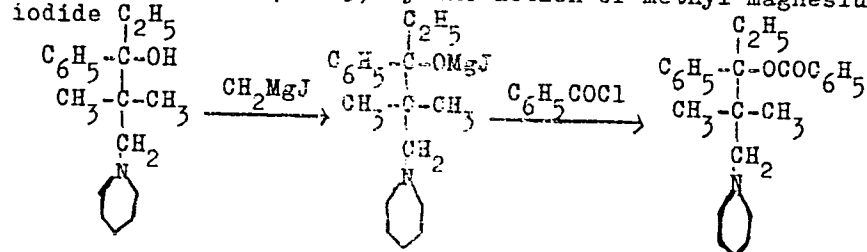
Card 2/4

Synthetic Anesthetizing Substances.

SOV/153-2-3-11/29

β -Phenoxy Propionates and Benzoates of 1-Phenyl-2-methyl- and 2,2-Dimethyl-3-(N-piperidyl)-propan-1-ol

The following compounds with formula (I) were produced: $R = H$, $R' = C_6H_5$ and $C_6H_5OCH_2CH_2$; $R = CH_3$, $R' = C_6H_5$ and $C_6H_5OCH_2CH_2$; $R = C_2H_5$, $R' = C_6H_5$ and $C_6H_5OCH_2CH_2$. The compounds synthesized with the formula (II) had the following substituents: $R = H$, $R' = C_6H_5OCH_2CH_2$; $R = CH_3$, $R' = C_6H_5$ and $C_6H_5OCH_2CH_2$; $R = C_2H_5$, $R' = C_6H_5$ and $C_6H_5OCH_2CH_2$. Most of these esters were isolated in the form of hydrochlorides. The benzoate with formula (II) ($R = C_2H_5$, $R' = C_6H_5$) could be obtained only according to the method by Houben (Ref 3) by the action of methyl magnesium



Card 3/4

Synthetic Anesthetizing Substances.

SOV/153-2-3-11/29

β-Phenoxy Propionates and Benzoates of 1-Phenyl-2-methyl- and 2,2-Dimethyl-3-(N-piperidyl)-propan-1-ol

In some cases the reaction mixture was irradiated with a mercury lamp in order to increase the yield in the esterification. All esters synthesized form colorless crystals, soluble in water, and insoluble in ether. Only the hydrochloride of β-phenoxy propionate of 1,2,2-trimethyl-1-phenyl-3-(N-piperidyl)-propan-1-ol could not be obtained in crystalline form. The pharmaceutical investigations of these compounds were carried out in the VNIKhFI imeni Ordzhonikidze in the laboratory of Professor M. D. Mashkovskiy. The results will be published later. In a comprehensive experimental part all syntheses carried out are exactly described and the products obtained are characterized. Chan Chon Khvan took part in the experimental work. There are 3 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova .. Kafedra organicheskoy khimii (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov - Chair of Organic Chemistry)
January 10, 1958

SUBMITTED:
Card 4/4

5(3)

AUTHOR:

Cherkasova, Ye. M.

SOV/62-59-4-36/42

TITLE:

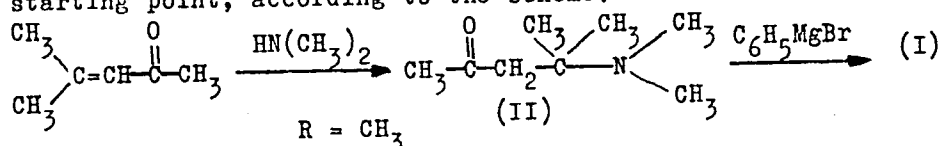
Synthesis of 1-Methyl-1-phenyl-3,3-dimethyl-3-dimethylamino-
propane-1-ol (Sintez 1-metil-1-fenil-3,3-dimetil-3-dimetil-
aminopropan-1-ola)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 4, pp 753-754 (USSR)

ABSTRACT:

This is a brief communication on the synthesis of the amino
alcohol 1-methyl-1-phenyl-3,3-dimethyl-3-dimethylaminopropane-
1-ol (I), $R=CH_3$, not yet described. Mesityl oxide was the
starting point, according to the scheme:



Ketoamine (II) could not be separated in a pure form because
it decomposes easily (Ref 1). Its hydrochloride was obtained
which could not be purified even by repeated recrystallization.
It was immediately influenced by phenylmagnesium bromide.

Card 1/2

Synthesis of 1-Methyl-1-phenyl-3,3-dimethyl-3-dimethyl- SOV/62-59-4-36/42
aminopropane-1-ol

Attempts were made to esterify (I) ($R = CH_3$) but not a single experiment yielded acyl derivatives. Numerous experiments with chlorides of aliphatic, aliphatic-aromatic and aromatic acids were carried out under various conditions. The use of ketone did not yield any expected acetate either. In most of the experiments the initial product, amino alcohol, and rare products of its dehydration were obtained. There is 1 reference.

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova
(Institute of Fine Chemical Technology imeni M. V. Lomono-
sov)

SUBMITTED: August 22, 1958

Card 2/2

5 (3)

AUTHORS:

Nazarov, I. N., Cherkasova, Ye. M.,
Yerkomaishvili, G. S.

SOV/62-59-9-14/40

TITLE:

Synthetic Anesthetic Substances. Communication 28. Ester of the
Phenyl-alkyl-amino Ethanol

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 9, pp 1605 - 1611 (USSR)

ABSTRACT:

The synthesis of the substances mentioned in the title was carried out with a view to the joint action of cocaine and vessel-constricting agents. Following an idea of A. V. Vishnevskiy, the addition of adrenalin to anesthetics was to be eliminated. Acyl derivatives of phenyl-alkyl-amino ethanol are synthesized, and their pharmacological effect is investigated. (The investigation of the influence of the chainlength on the anesthetic- and vessel-constricting effect will be published in a later paper.) The synthesized substances are then compared with natural similar derivatives of the aminopropanols, which also represent anesthetics of various efficiency. A series of similarly composed esters of the 1-alkyl-1-phenyl-2-diethylaminoethane-1-ols with straight and branching ethanol chains (I) and (II) were synthesized. The synthesis was carried out according to the following

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Synthetic Anesthetic Substances. Communication 28.
Ester of the Phenyl-alkyl-amino Ethanols

SOV/62-59-9-14/40

scheme: basic substance was bromated phenacyl which was converted into α -dimethylaminoacetophenone (III) by dimethylamine in ether. From (III) the above-mentioned compound is obtained by the effect of the Grignard reagent, which can then be transformed under simple conditions into various esters (benzoates, phenoxyacetates,...). The branched-off compounds were obtained by similar step-by-step transformation of the propiophenone. The synthesized esters formed in the shape of their hydrochloride; they are colorless, well-crystallizing, water-soluble substances. The preparations were given to the NIKhFI im. Ordzhonikidze-Laboratoriya prof. M. D. Mashkovskogo (NIKhFI imeni Ordzhonikidze - Laboratory of Professor M. D. Mashkovskiy) for physiological testing. The experimental part of the article describes the conditions of synthesis. The intermediate products of the synthesis were amino ketones (III), (V), and secondary and tertiary amino alcohols with residues of diethylamines. There are 21 references, 8 of which are Soviet.

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Synthetic Anesthetic Substances. Communication 28. SOV/62-59-9-14/40
Ester of the Phenyl-alkyl-amino Ethanol

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova
(Institute of Fine-chemical Technology imeni M. V. Lomonosov)

SUBMITTED: December 23, 1957

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SOV/79-29-3-2/61

5 (3)
 AUTHORS: Nazarov, I. N. (Deceased), Cherkasova, Ye. M.

TITLE: Pain-killing Substances (Obezbolivayushchiye veshchestva).
 XXIX. Investigation in the Series of 1-Phenyl-3-methyl-3-aminopropanols and Their Acyl Derivatives (XXIX. Issledovaniye v ryadu 1-fenil-3-metil-3-aminopropanolov i ikh atsil'nykh proizvodnykh)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 724-735 (USSR)

ABSTRACT: Among the esters of phenylalkyl- β -aminopropanols earlier synthesized by the authors there were some possessing a remarkable physiological activity and one of the two methyl groups in the α - and α,α -positions to the hydroxyl group in the propanol chain proved to be an influential factor with respect to the above activity. Only the influence exerted by the methyl group in the β -position (Refs 1, 2) remained unclear. The authors were therefore interested in synthesizing the esters of 1-alkyl-1-phenyl-3-methyl-3-aminopropan-1-ols, which had hitherto almost not been dealt with at all in publications (Refs 3-8). The initial product for the above propanols was phenylpropenyl ketone, which was converted to β -dimethyl aminobutyrophenone (I) and β -(N-piperidyl)-butyro-

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Pain-killing Substances. XXIX. Investigation in the SOV/79-29-3-2/61
Series of 1-Phenyl-3-methyl-3-aminopropanols and Their Acyl Derivatives

phenone (II) through dimethyl amine and piperidine (Scheme 1). Compounds (I) and (II) are very unstable. It is of interest that the analogous amino ketones with the CH_3 group in the α -position to the CO group or without it (III-VIII) are reduced normally and give good yields of the corresponding amino alcohols. The transition of compounds (I and II) into the corresponding tertiary amino alcohols was realized by the aid of organolithium- and organomagnesium compounds (Scheme 3). Compound (I) with RMgX , however, led to but small yields of the corresponding alcohols. The use of CH_3Li and $\text{C}_2\text{H}_5\text{Li}$ increased them up to 28%. Compound (II) reacted normally with organomagnesium compounds (63-70% yields of alcohols). In both cases, according to the theory, two aminocalcohols (XI-XIV) designated as α - and β -forms, could be separated. The authors referred to these α -isomers all those compounds, the hydrochlorides of which have lower melting points than those of the corresponding β -isomers (Table 1). The aminocalcohols obtained were converted into the esters by the benzoyl-, cinamic acid-, β -phenoxypropyl- and phenoxyacetyl chloride under various conditions. This, however, met with difficulties and could be attained only by persistent drying of the crystalline

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Pain-killing Substances.XXIX. Investigation in the Series of 1-Phenyl-3-methyl-3-aminopropanols and Their Acyl Derivatives

hydrochlorides in vacuum. Some esters were also obtained by the action of acid chloride upon the sodium- and magnesium alcoholates (Scheme 4). Table 2 shows the yields of the esters obtained in form of hydrochlorides. The infrared absorption spectra of some aminoalcohols point to a strongly marked intramolecular hydrogen bond. There are 1 figure, 2 tables, and 17 references, 7 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova
(Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: January 6, 1958

Card 3/3

CHERKASOVA, Ye.M.

Chemistry of amino ketones. Structure of ~~β~~ -amino ketones and their conversions in hydrogenation. Zhur. ob. khim. 30 no.9:2846-2849 S '60. (MIRA 13:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(Ketones)

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Synthesis of 1-aryl-4-dimethylamino-1-butanol~~s~~ and their esters.
Izv. AN SSSR Otd. khim. nauk no.10;1820-1824 O '60. (MIRA 13:10)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova.
(Butanol)

CHERKASOVA, Ye.M.; BOGATKOV, S.V.

Synthesis of some 1-alkyl-1-phenyl-2-diethyl-1-aminoethanols
and their esters. Zhur. ob. khim. 31 no.3:810-815 Mr '61.
(MIRA 14:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(Ethanol)

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Synthesis of cyclohexyl- β -dimethylaminoethylcarbinols and their esters. Zhur.ob.khim. 31 no.6:1832-1838 Je '61. (MIRA 14:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

(Methanol)

CHERKASOVA, Ye.M.; BOGATKOV, S.V.

Methylamino- and methylbenzylaminophenylalkylethanol. Izv.vys.-
ucheb.zav.;khim.i khim.tekh. 5 no.2:284-288 '62. (MIRA 15:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
Lomonosova, kafedra organicheskoy khimii.
(Ethanol)

CHERKASOVA, Ye.M.; BOGATKOV, S.V.

Progress in the field of local anesthetic chemistry during the last 10 years. Usp.khim. 31 no.8:963-988 Ag '62. (MIRA 15:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

(Anesthetics)

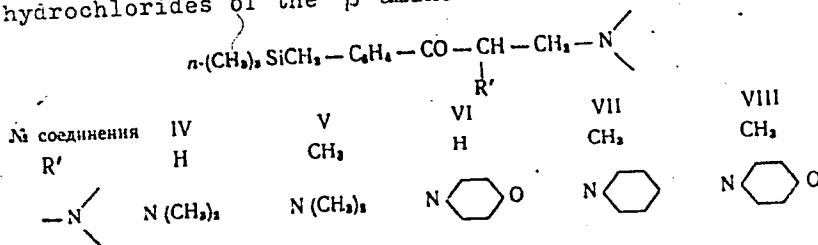
S/020/62/145/004/020/024
B110/B144

AUTHORS: Cherkasova, Ye. M., Yerkomaishvili, G. S., Makovskaya, T. N.,
and Chao Ping-ko

TITLE: Synthesis of new types of silicon-containing aminoketones,
amino alcohols, and their esters

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 4, 1962, 841 - 844

TEXT: n-silico-neopentyl acetophenone (I), n-silico-neopentyl propiophenone (II) and n-silico-neopentyl isobutyrophenone (III) were obtained by acylation of trimethyl benzyl silane in the presence of $AlCl_3$ or $ZnCl_2$.
Good yields of hydrochlorides of the β -aminoketones IV - VIII

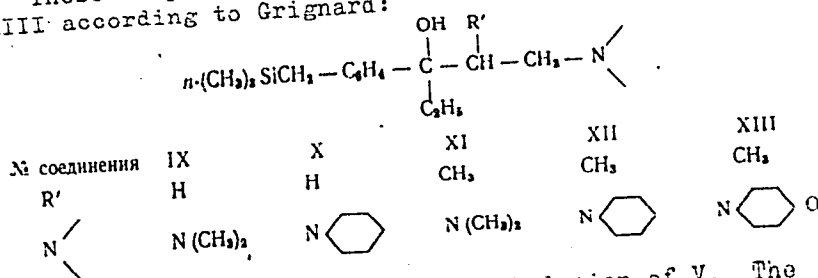


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S/020/62/145/004/020/024
B110/B144

Synthesis of new types of ...

resulted from I and II according to Mannich with dimethyl amine, piperidine and morpholine. These compounds were transformed to tertiary amino alcohols IX - XIII according to Grignard:



II is formed by deamination of IV and deaminomethylation of V. The bases of the amino alcohols were converted with the chloride of phenoxy acetic acid to phenoxy acetates which may be used as local anesthetics.
Boiling points: I: 94 - 95°C (1 mm Hg); II: 114 - 117°C (1.5 mm Hg); III: 120 - 125°C (1.5 mm Hg); n_D^{20} : I: 1.5260; II: 1.5233; III: 1.5170.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

Synthesis of new types of ...

S/020/62/145/004/020/024
B110/B144

PRESENTED: March 12, 1962, by. A. A. Balandin, Academician

SUBMITTED: March 10, 1962

Card 3/3

CERKASOVA, E.M. [Cherkasova, Ye.M.]; BOGATKOV, S.V.

Progress of local anesthetic chemistry in the last decade. Analele
chimie 18 no.2:63-93 Ap-Je '63.

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.; MIROSHNICHENKO, L.D.

On the two products of aminomethylation of cyclohexyl methyl ketone.
Zhur.ob.khim. 33 no.4:1244-1246 Ap '63. (MIRA 16:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V.Lomonosova. (Ketone) (Aminomethylation)

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Esters of phenylalkyl(4-morpholino)propanols. Zhur. ob. khim.
33 no.5:1661-1666 My '63. (MIRA 16:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
Lomonosova.
(Morpholine) (Propanol) (Esters)

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Secondary amino alcohols and their esters. Zhur.ob.khim. 33
no.7:2106-2109 JI '63. (MIRA 16:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
Lomonosova.

(Alcohols) (Esters)

CHERKASOVA, Ye.M.; BALANDIN, A.A., akademik

Structure and anesthetic action of aminocarbinol esters. Dokl. AN SSSR
154 no.6:1409-1411 F '64. (MIRA 17:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova.

KRINDACH, N.I.; SILIN-BEKCHURIN, I.A.; TUNITSKIY, L.N.; CHEKASOV, Ye.M.

High-frequency discharge in a neon-helium laser. Zhur. tekhn. fiz.
35 no.9:1678-1684 S '65. (MIRA 18:10)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR, Moskva.

VEYNEROV, I.B., prof.; KRUCHAKOVA, F.A., kand. biol. nauk; CHERKASSKAYA, Ye.I.

Vitamin metabolism and excretion of 17-ketosteroids in cutaneous tuberculosis treated with tubazid. Vest. dermat. i ven. no.1; 22-28 '65. (MIRA 18:10)

1. Klinika tuberkuleza kozhi Ukrainського nauchno-issledovatel'skogo instituta tuberkuleza i grudnoy khirurgii imeni Ynovskogo (dir.- dotsent A.S. Mamolat), Kiyev.

CHERKASOVA, Ye.V.

Effect on phagocytosis of the addition of zinc chloride solutions to
the blood. Trudy Vses. ob-va fiziol., biokhim. i farm. 3:100-102
'56 (MLRA 10:4)

1. Kafedra fiziologii Turkmenskogo meditsinskogo instituta;
zaveduyushchiy kafedroy professor A.I. Venchikov.
(PHAGOCYTOSIS) (ZINC CHLORIDE)

CHERKASOVA E. V.

Effect of a change of zinc content in the environment on the intensity of heat exchange in frogs. E. V. Cherkasova (Turkmen Med. Inst., Ashkhabad). *Pril. Zh. S.S. S.R.* 42, 413-17(1959).—Frogs kept 1 hr. in aq. soln. of 0.003 mg. % $ZnCl_2$ show an increase in heat exchange with the environment; in more concd. $ZnCl_2$ the heat exchange is lowered. Increase of heat exchange also takes place after subcutaneous injection of strychnine nitrate or by immersion in such a soln. after closure of the urinary ducts.
G. M. Kosolapoff

USSR/General Biology - Individual Development. Postembryonal
Development.

B

Abs Jour : Ref Zhur Biol., No 6, 1959, 23618

Author : Cherkasova, Ye.V.

Inst : -

Title : The Reaction of a Growing Organism to the Introduction
of Zinc Into It.

Orig Pub : Zdravookhr. Turkmenistana, 1957, No 2, 19-22

Abstract : Experiments were conducted on chicks beginning with the
2nd day of life and ending with complete sexual maturity.
In giving chicks and chickens solutions of zinc chloride
of 0.003, 0.125, 5,200 and 1000 mg%, a decrease of
weight was observed in the beginning, and later its sta-
ble increase by 6.9-9.7% more than in the control. In
a dose of 0.003 mg%, an earlier development of secondary
sexual signs was noted. The ability of experimental
chickens to lay eggs did not differ from that of the

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USSR/General Biology - Individual Development. Postembryonal
Development.

B

Abs Jour : Ref Zhur Biol., No 6, 1959, 23618

control, but the weight of eggs exceeded by 6.5-6.8%
that of the control. --- V.V. Polovtsova

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- 17 -

CHERKASOVA, Ye . V.

CHERKASOVA, Ye. V., Doc Med Sci -- (diss) "Reaction of the animal organism to the injection of zinc as a microcell." Ashkhabad , 1958. 19 pp (Tashkent Med Inst). --List of author's works at end of book (11 titles) (KL, 20-58, 100)

~~CHERKASOVA, Ye. V.~~

Effect of boron on gas exchange in silkworms. Izv. AN Turk. SSR
no.3:107-109 '58. (MIRA 11:9)

1. Turkmenskiy gosudarstvennyy meditsinskiy institut.
(Silkworms) (Boron in the body)

SERKOV, A.T.; CHERKASOVA, Ye.V.; KONKIN, A.A.; POKROVSKIY, V.N.

Effect of some factors on the formation process of the filament streams in the outflow of viscose. Khim. volok. no.3:32-37 '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Serkov, Cherkasova). 2. Moskovskiy tekstil'nyy institut (for Konkin). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut steklyanogo volokna (for Pokrovskiy). (Rayon)

SERKOV, A.T.; CHERKASOVA, Ye.V.

Ways of increasing the stability of viscose fiber forming.
Khim. volok. no.3:40-43 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

SERKOV, A.T.; CHERKASOVA, Ye.V.; KOTOMINA, I.N.

Some causes of filament breakage during the formation of
viscose fibers. Khim. volok. no.4:33-37 '65. (MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo
volokna.

SERKOV, A.T.; CHERKASOVA, Ye.V.

Stability in the formation of viscose fibers on spinnerets with
various diameter orifices. Khim. volok. no.6:35-36 '65.
(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo
volokna. Submitted January 28, 1965.

CHERKASS, Ya.

Mobilizing potentialities for increased production. Prom.koop. 14
no.4:9 Ap '60. (MIRA 13:6)

1. Sekretar' partorganizatsii arteli im. 3o let USSR, Khar'kov.
(Kharkov--Clothing industry)

CHERKASSKAYA, A.R.; PEREL'MUTER, Ye.A.; TOKAREVA, R.O.

Pneumoencephalographic studies in organic psychoses in
childhood and adolescence. Zhur. nevr. i psikh. 64 no.7:
1070-1073 '64. (MIRA 17:12)

1. Kafedra psikhatrii (zaveduyushchiy - prof. L.A. Mirel'zon)
Odesskogo meditsinskogo instituta i Odesskaya oblastnaya psikho-
nevrologicheskaya bol'nitsa (glavnyy vrach F.K. Filyanovskiy).

CHERKASSKAYA, A. Ya.

Cherkasskaya, A. Ya. "On the problem of respiratory constriction of limb muscles,"
Trudy Kuybyshevsk. gos. med. in-ta, Vol. I, 1948, p. 227-36

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949.

CHERKASSKAYA, A.Ya.

Structure of respiratory impulse according to data on muscular contraction of the extremity. Fiziol. zh. SSSR 38 no.6:702-707 Nov-Dec 1952.
(CML 23:4)

1. Department of Normal Physiology of Kuybyshev Medical Institute.

ZASHKVARA, V.G.; SENICHENKO, S.Ye.; CHERKASSKAYA, E.I.; SEMISALOVA, V.N.

Effect of the size of the grain and of the sieve composition of
coals on the coking process. Koks i khim. no.8:3-8 '62.

(MIRA 17:2)

1. Ukrainskiy uglekhimicheskiy institut.

~~CHERKASSKAYA, P. M.~~

The xanthation of cellulose. I. The reaction of carbon disulfide with sodium hydroxide. (P. M. Cherkasskaya) A. B. Pakshver, and V. A. Kargin. *Fiziko-kh. i. Tekhn. 4, 365-67 (1953). See C.A. 47, 5228e.* II. The xanthation of simple carbohydrates and of cellulose. *Ibid.* 439-43. —To gain some information on the kinetics of the xanthation reaction a study is made of the xanthation of simple multivalent alcs. such as sucrose (I) and a degraded hydrate cellulose (II) with a degree of polymerization of 82, which is prepd. by acid hydrolysis of viscose rayon and is completely sol. in aq. alkali. The reactions are carried out in sealed tubes.

The reaction products are detd. potentiometrically according to Neiman and Stepanova, *Tekhn. Byull. Glavnos. Upravleniye Izhimenn. Volokna* (1937) and, from the curves obtained, the amt. of xanthate, sulfide, and trithiocarbonate is detd. directly. With II, the degree of xanthation is detd. iodometrically and converted into the γ -no. (the no. of NaCS_2O groups/100 glucose groups). The potentiometric and iodometric methods give values that agree well. The reaction of I with CS_2 in alk. soln. is studied by detg. the dependency on time and temp. of the reaction products on xanthation, the influence of the ratio of I: CS_2 : NaOH on the velocity of the xanthation of I with ratios of 1:1:5, 1:4:4, and 1:12:12 at 20 and 40°, the effect of the NaOH concn. on the velocity of the formation of the I xanthate, of Na_2S , and of Na_2CS_3 at 40°, and by detg. the kinetic data of the xanthation of I at 20, 30, and 40°. The results, given in tables, indicate that the xanthation occurs according to the equation: $\text{ROH} + \text{NaOH} \rightarrow \text{ROH} \cdot \text{NaOH}$ (III); $\text{III} + \text{CS}_2 \rightarrow \text{ROCSSNa} + \text{H}_2\text{O}$. The no. of reacted OH groups/glucose group is unknown. For low degrees of esterification the following equation is valid for the reaction velocity: $w = k_1 c_{\text{CS}_2}$. From the results of the xanthation of I and II, n (the no. of reacted OH groups) is found to be about 2. The xanthation of the high-mol. cellulose takes place under heterogeneous conditions and is therefore principally different. Because of diffusion of the CS_2 in the surrounding medium or into the interior of the fiber the reaction is permutoid in character or else takes place on the surface. Since the reaction is carried out in sealed tubes it has a much more pronounced permutoid character and is, therefore, considered to be a pseudomonomol. reaction and the following equation is used for its kinetic calcs.: $k_1 = 2.3/t \times \log 1/1 - x$, in which x is the amt. of combined CS_2 . This equation gives satisfactory values up to a degree of esterification of about 10% ($\gamma = 50$).

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The results indicate that in the xanthation of cellulose and of simple sugars 2 independent reactions take place: the reaction of CS_2 with the carbohydrate and with excess NaOH . In the 1st case the velocity of the formation of the xanthate passes through a max. because the equil. is continuously disturbed by side reactions. An increase in alkali concn. decreases the reaction velocity in the xanthation of I, either because OH groups are blocked by NaOH or because the equil. is shifted to the formation of Na_2S and Na_2CS_2 . The xanthation of alkali cellulose in a heterogeneous medium can be expressed by an equation of the 1st order as a pseudo-unimol. reaction. Although the reaction should proceed more slowly because of the heterogeneous conditions the velocity, in this case, is somewhat greater than in a homogeneous reaction because, in the latter, there is a considerably larger excess of NaOH present. As compared with I, the process is much slower, particularly on the basis of equal aints. of reagents. By increasing the temp. the main reaction as well as the side reactions can be accelerated, and, in the case of I, the velocity of the main reaction is somewhat greater than that of the side reactions. The retarding effect of the alkali and of the heterogeneous course of the reaction are shown in a decrease in the temp. coeff.

F. E. Brauns

1. CHERKASIKAYA, P. M.; PAKSHVER, A. B.; KARGIN, V. A.
2. USSR (600)
4. Sodium Hydroxide
7. Reaction of carbon disulfide with sodium hydroxide. Zhur. prikl. khim. 26, No. 1, 1953.

CS₂ reacts with NaOH in two consecutive steps. The rate constants for the two reactions were detd, as well as the relation between the reaction rate and the concn of the reactants. The energy of activation was also detd.

257T36

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.